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EXAMINER

NGUYEN, TOAN D

ART UNIT

PAPER NUMBER

2416

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DELIVERY MODE

10/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/755,512	Applicant(s) KLOTH, RAYMOND	
	Examiner TOAN D. NGUYEN	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,8-11,18-20 and 24-42 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-38 is/are allowed.
- 6) ☒ Claim(s) 1,4,8-11,18-20,25,27,29,31 and 39-42 is/are rejected.
- 7) ☒ Claim(s) 24,26,28 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 1, 4, 8-11, 18-20 and 24-42 are withdrawn in view of the newly discovered reference(s) to Brady et al. (US 5,914,938) and Frantz et al. (US 5,959,990).

Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, 8-11, 18-20, 39 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Brady et al. (US 5,914,938).

For claim 1, Brady et al. disclose MAC address table search unit, comprising:

receiving a frame (received frame) at a port (figure 3, reference 22) of said switch (figure 3, reference 16), said received frame containing one or more indicia of frame type (col. 4, line 57), said one or more indicia of frame type including an indicia of a protocol type (col. 5, lines 40-43);

accessing a virtual local area network (VLAN) value associated with the port;
deriving a virtual local area network (derived VLAN) value in response to said

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one or more indicia of frame type and said VLAN value, said derived VLAN value for use internal to said switch (col. 5, lines 40-43);

accessing a forwarding database with said derived VLAN value to determine a destination address (col. 5, lines 46-52); and,

forwarding, in response to said derived VLAN value, said received frame to an output port (col. 5, lines 16-23) for transmission to the destination address (col. 5, lines 52-54).

For claim 4, Brady et al. disclose wherein said indicia of frame type further comprises a subnet value (col. 4, lines 62-64).

For claim 8, Brady et al. disclose further comprising:

deriving a MAC address from said derived VLAN value and forwarding said received frame to the output port for transmission to a destination having said MAC address (figure 3, col. 5, lines 40-54).

For claim 9, Brady et al. disclose MAC address table search unit, comprising:

a port (figure 3, reference 22) to receive a frame (received frame), said port associated with a virtual local area network (VLAN) value, said received frame containing one or more indicia of frame type (col. 4, line 57), said one or more indicia of frame type including an indicia of a protocol type (col. 5, lines 40-43);

a parsing engine to derive a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said VLAN value, said derived VLAN value for use internal to said switch (col. 5, lines 40-43);

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a forwarding database configured to use said derived VLAN value as an input and to yield a destination address as an output (col. 5, lines 46-52); and,

an output port to transmit said received frame (col. 5, lines 16-23), in response to said derived VLAN value, to said destination address (col. 5, lines 52-54).

For claim 10, Brady et al. disclose further comprising:

a forwarding engine for forwarding said received frame in response to said derived VLAN value and said destination address (col. 4, lines 42-49).

For claim 11, Brady et al. disclose MAC address table search unit, comprising:

receiving a frame (received frame) at a port (figure 3, reference 22) of said switch (figure 3, reference 16), said received frame containing one or more indicia of frame type (col. 4, line 57), said one or more indicia of frame type including an indicia of a protocol type (col. 5, lines 40-43);

accessing a virtual local area network (VLAN) value associated with the port; deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said VLAN value, said derived VLAN value for use internal to said switch (col. 5, lines 40-43);

accessing a forwarding database with said derived VLAN value to determine a destination address (col. 5, lines 46-52); and,

forwarding, in response to said derived VLAN value, said received frame to an output port (col. 5, lines 16-23) for transmission to the destination address (col. 5, lines 52-54).

For claim 18, Brady et al. disclose MAC address table search unit, comprising:

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receiving a frame (received frame) at a port (figure 3, reference 22) of said switch (figure 3, reference 16), said received frame containing one or more indicia of frame type (col. 4, line 57), said one or more indicia of frame type including an indicia of a protocol type (col. 5, lines 40-43);

accessing a port index value associated with the port (col. 5, lines 37-39);

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said port index value (col. 5, lines 40-49);

accessing a forwarding data base with said derived VLAN value to determine a destination address (col. 5, lines 46-52); and,

forwarding, in response to said derived VLAN value, said received frame to an output port (col. 5, lines 16-23) for transmission to the destination address (col. 5, lines 52-54).

For claim 19, Brady et al. disclose MAC address table search unit, comprising:

a port (figure 3, reference 22) to receive a frame (received frame), said port associated with a index value (col. 5, lines 37-39), said received frame containing one or more indicia of frame type (col. 4, line 57), said one or more indicia of frame type including an indicia of a protocol type (col. 5, lines 40-43);

a parsing engine to derive a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said index value (col. 5, lines 40-49);

a forwarding database configured to use said derived VLAN value as input and to yield a destination address as output (col. 5, lines 46-52); and,

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an output port to transmit said received frame (col. 5, lines 16-23), in response to said derived VLAN value, to said destination address (col. 5, lines 52-54).

For claim 20, Brady et al. disclose MAC address table search unit, comprising:

means for receiving a frame (received frame), said received frame containing one or more indicia of frame type (col. 4, line 57), said one or more indicia of frame type including an indicia of a protocol type (col. 5, lines 40-43);

means for accessing a index value associated with the means for receiving a frame col. 5, lines 46-49);

means for deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said index value (col. 5, lines 40-49);

means for accessing a forwarding database with said derived VLAN value to determine a destination address (col. 5, lines 46-52); and,

means for forwarding (col. 5, lines 16-23), in response to said derived VLAN value, said received frame to an output port for transmission to the destination (col. 5, lines 52-54).

For claim 39, Brady et al. disclose MAC address table search unit, comprising:

receiving a frame at a input port (figure 3, reference 22), the frame including a protocol type and a source address (col. 5, lines 40-43, and col. 5, lines 55-61);

in response to the protocol type indicating a particular protocol type, parsing the source address to obtain a subnet value (col. 5, lines 40-49, and col. 5, lines 55-61);

applying the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ from at least one other derived

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VLAN value for another frame received on the input port, but having a different subnet value (col. 5, lines 40-61);

accessing a forwarding database with the derived VLAN value to determine a destination address (col. 5, lines 46-52); and,

forwarding the frame to an output port (col. 5, lines 16-23) for transmission to the destination address (col. 5, lines 52-54).

For claim 41, Brady et al. disclose MAC address table search unit, comprising:

an input port (figure 3, reference 22) to receive a frame, the frame including a protocol type and a source address (col. 5, lines 40-43, and col. 5, lines 55-61);

an engine to, in response to the protocol type indicating a particular protocol type, parse the source address to obtain a subnet value (col. 5, lines 40-49, and col. 5, lines 55-61), and to apply the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ from at least one other derived VLAN value for another frame received on the input port, but having a different subnet value (col. 5, lines 40-61);

a forwarding database to use the derived VLAN value to determine a destination address (col. 5, lines 46-52); and

an output port to transmit (col. 5, lines 16-23) the frame to the destination address (col. 5, lines 52-54).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 25, 27, 29, 31, 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brady et al. (US 5,914,938) in view of Frantz et al. (US 5,959,990).

For claims 25, 27, 29, 31, 40 and 42, Brady et al. disclose wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type. In an analogous art, Frantz et al. disclose wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type (col. 3, line 64).

Frantz et al. disclose wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type (col. 3, line 64 as set forth in claim 27), wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type (col. 3, line 64 as set forth in claim 29), wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type (col. 3, line 64 as set forth in claim 31), wherein the particular protocol type is Internet Protocol (IP) (col. 3, line 64 as set forth in claim 40), and wherein the particular protocol type is Internet Protocol (IP) (col. 3, line 64 as set forth in claim 42).

One skilled in the art would have recognized the wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type, and would have applied Frantz et al.'s VLANs in Brady et al.'s VLAN. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Frantz et al.'s VLAN frame format in Brady et al.'s MAC address table search unit with the motivation being transferred messages between nodes of different VLANs (col. 3, lines 61-64).

Allowable Subject Matter

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6. Claims 24, 26, 28 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 32-38 are allowed.

Regarding claims 32, the prior art fails to teach a combination of the steps of:
concatenating the protocol code together with the VLAN value to produce a mapping address;

applying the mapping address to a memory structure to obtain a derived VLAN value that is based upon both the frame's protocol type and the VLAN value associated with the input port, the derived VLAN value to differ from at least one other derived VLAN value for another frame received on the input port, but having a different protocol type, in the specific combination as recited in the claim.

Regarding claims 36, the prior art fails to teach a combination of the steps of:
an engine to concatenate the protocol code together with the VLAN value to produce a mapping address, and to apply the mapping address to a memory structure to obtain a derived VLAN value that is based upon both the frame's protocol type and VLAN value associated with the input port, the derived VLAN value to differ from at least one other derived VLAN value for another frame received on the input port, but having a different protocol type, in the specific combination as recited in the claim.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOAN D. NGUYEN whose telephone number is (571)272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. D. N./

Examiner, Art Unit 2416

/FIRMIN BACKER/

Supervisory Patent Examiner, Art Unit 2416